ABSTRACT

CHARACTERIZATION AND RELEASE TEST OF GENTAMICIN SULPHATE FROM SODIUM ALGINATE MICROSPHERES 2,5 % IN CREAM O/W

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The aim of this research is to characterize and release of gentamicin sulphate from sodium alginat 2,5 % as matrix polymer in cream o/w. Gentamicin sulphate microspheres were made by ionotropic gelation method with aerosolization technique. The verification of gentamicin sulphate microspheres was determined using FT-IR. The evaluation of gentamicin sulphate microsphere was determined by yield value and percent moisture content. The release of gentamicin sulphate is affected by the characteristics of microsphere. The result of microspheres characterization include examination of particle size distribution, SEM, swelling index, drug loading, and entrapment efficiency.

Release test of gentamicin sulphate was determined using Franz Diffusion cell with phosphate buffer with pH 7,40 $\pm$ 0,05 as the media. The kinetics release model suitable for gentamicin sulphate cream was first order that showed release of the active ingredient depends on remaining concentration, and gentamicin sulphate microspheres cream was the higuchi model that showed release of the active ingredient through the diffusion process.

Keywords : Gentamicin sulphate, Microsphere, Ionotropic gelation, Sodium Alginate, Characterization, Release test.